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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,300	09/17/2003	Jae Kwang Park	282.028	4581

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EXAMINER	
CINTINS, IVARS C	
ART UNIT	PAPER NUMBER
1724	

DATE MAILED: 03/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/664,300

Applicant(s)

PARK ET AL.

Examiner

Ivars C. Cintins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/17/03 & 2/20/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

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The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 10, 11 and 14-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The term "conventional" (claim 10, line 2; claim 11, line 1; claim 14, line 2; and claim 15, line 1) is vague, and indefinite as to the type of filter material intended. Claim 16 depends from claim 14, and is therefore also indefinite.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 5, 6, 8-10, 12-14, 16, 17, 19-23 and 25-27 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Azizian (U.S. Patent No. 6,599,429). The reference discloses removing a contaminant such as arsenic (col. 3, line 4) from a fluid stream with a filter material of the type recited (col. 1, lines 43 and 50-53; and col. 2, lines 9-10), which filter material has been prepared in the recited manner (col. 2, lines 22-45). Applicant should note that the type of fluid (i.e. gas) intended to be treated by a filter material is not a product limitation, and hence cannot be given weight in determining patentability of claim 13.

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Claims 1-4, 6, 10, 12-14, 17, 19, 20, 22 and 25-27 are rejected under 35 U.S.C. 102(b) as being anticipated by the Wasay et al. publication entitled "Removal of Hazardous Anions from Aqueous Solutions by La(III)- and Y(III)-Impregnated Alumina." The reference discloses removing arsenic from a fluid stream with a material of the type recited (see pages 1503-1504); and this is all that is required by claims 1-4, 6, 10, 12-14, 17, 19, 20, 22 and 25-27.

Claims 1-4, 6, 8-10, 12-14, 16, 17, 22 and 25-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Misra et al. (U.S. Patent No. 5,603,838). The reference discloses removing arsenic from a fluid stream with a composition comprising lanthanum oxide and alumina; and this composition is deemed to be indistinguishable from the recited filter material.

Claims 1-3, 6, 8-17, 22, 23, 25-27 and 30 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Hughes (U.S. Patent No. 6,833,075). The reference discloses removing a contaminant such as arsenic (col. 14, line 45) from a fluid stream with a filter material comprising a carbon block (col. 7, line 60) impregnated with a metal oxide (col. 7, lines 51-52) such as iron oxide (col. 24, line 64); and this is all that is required by claims 1-3, 6, 8-17, 22, 23, 25-27 and 30.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7, 18, 24, 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Azizian in view of Applicant's admitted prior art. Azizian discloses the claimed invention with the exception of the use of a mesoporous silica molecular sieve. Applicant has disclosed

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(page 7, lines 9-11 of the specification) that mesoporous silica molecular sieves of the type recited are known. It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the admittedly known mesoporous silica molecular sieve for the molecular sieve support material of Azizian (see col. 1, line 51), since this known mesoporous silica molecular sieve is capable of supporting a coating of ferric iron in substantially the same manner as the molecular sieve of Azizian, to produce substantially the same results.

Choudary et al. (U.S. Patent No. 6,797,038) discloses an adsorbent material comprising a mesoporous silica substrate (col. 4, line 21) impregnated with a metal compound (col. 3, line 54 through col. 4, line 5).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to I. Cintins whose telephone number is (571) 272-1155. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Duane Smith, can be reached at (571) 272-1166.

The centralized facsimile number for the USPTO is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Ivars C. Cintins  
Primary Examiner  
Art Unit 1724

I. Cintins  
March 7, 2005